

Structures, Processes, and Responses in Animals

6-3 The student will demonstrate an understanding of structures, processes, and responses in animals that allow them to survive and reproduce. (Life Science)

6.3.2 Summarize the basic functions of the structures of animals that allow them to defend themselves, to move, and to obtain resources.

Taxonomy level: 2.4-B Understand Conceptual Knowledge

Previous/Future knowledge: In 3rd grade (3-2.2), students explained how physical adaptations (including defense, locomotion and movement, and food obtainment) of animals allowed them to survive in their environments.

It is essential for students to know that animals have special structures that enable them to survive in their environment. These structures allow them to defend themselves, to move, and to obtain resources.

Structures for defense

- Allow an animal to hide from a predator or warn a predator (for example skin color (camouflage) or patterns (mimicry))
- Allow an animal to make a direct attack painful (for example horns, claws, quills, stingers, or venom)
- Allow an animal to change its size prevent a direct attack (for example shells, emitting smells or body fluids (ink), or mechanisms)
- Allow an animal to flee or hide from predators (for example body design), sensory organs, legs (for example for speed or for jumping), wings, or light-weight skeletons (for example flight)
- Allow an animal to construct holes or tunnels to run into and hide or to climb (for example paws or toenails)

Structures for movement

- Allow animals to move to fulfill their needs such as finding food and escaping predators (for example legs, feet and arms, tails, fins, wings, body design, skeleton)

Structures to obtain resources

- Allow an animal to chew, tear, and eat its food or drink (for example mouth parts including beaks, teeth, flexible jaws, tongues, tube-shaped)
- Allow an animal to grab and hold its food (for example tentacles, pincers, claws, fangs)
- Allow an animal to consume food found in the water (for example filtering structures for filter feeders in sponges or clams)

It is not essential for students to know the complete anatomy or any specialized structures for the various groups of animals.

Assessment Guidelines:

The objective of this indicator is to *summarize* basic functions of structures for defense, movement, and resource obtainment; therefore, the primary focus of assessment should be to generalize major points about the parts of an organism that allow for these functions. However, appropriate assessments should also require students to *identify* individual structures and their primary functions; *exemplify* or *illustrate* structures using words, pictures, or diagrams; or *classify* structures by their function.